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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,956	12/03/2004	Takeshi Koyama	396.4449X00	8624

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EXAMINER	
WOOD, ELLEN S	

ART UNIT	PAPER NUMBER
1794	

MAIL DATE	DELIVERY MODE
10/29/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/516,956	KOYAMA ET AL.	
	Examiner	Art Unit	
	ELLEN S. WOOD	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 July 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-14,16-19,21 and 22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3-14, 16-19, 21-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3-5, 6-14, 16-19 and 21-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Carlblom (US 5,637,365).

In regards to claim 1, Carlblom discloses resins having gas barrier properties (col. 1 9-10). The resins are used as barrier coatings for packaging material and/or containers (col. 1 lines 10-12). The gas barrier layer is an adduct of polyamine monomer and a polyepoxide to form a polyamine-polyepoxide polymer (col. 5 lines 66-67), this is considered to one of ordinary skill in the art an epoxy resin. The preferred epoxy curing agents are those that contain the skeletal structure of the instant applicant (col. 8 lines 53-56). The skeletal structure comprises at least 64% of the curing agent (col. 8 lines 65-67). The gas-barrier layer has an oxygen permeability of less than 0.60 cc-mil/100 in^2/atm./day measured at 30^0C and relative humidity up to 75% (col. 14 lines 34-38).

In regards to claims 3-5, Carlblom discloses that the epoxy resin contains at least one resin selected from the group consisting of glycidyl ether moieties derived from xylylenediamine (col. 6 lines 52-53) and/or resorcinol (col. 7 lines 63-64) and diglycidyl ethers of bisphenol F may be used (col. 9 lines 9-12).

In regards to claims 5-7, Carlblom discloses that the preferred curing agents are those which the combinations of xylylenediamine, a polyfunctional compound having at least one acyl group, and a monocarboxylic acid (col. 8 lines 60-64).

In regards to claim 8, Carlblom discloses that the barrier materials can be applied as either solvent or aqueous-based thermosetting coating compositions onto other polymeric materials to form packaging materials such as containers (col. 12 lines 32-37).

In regards to claim 9, Carlblom discloses that the polymeric material is a polyolefin (col. 12 lines 14-16) or PET (col. 12 lines 58-59).

In regards to claim 10, Carlblom discloses that the polymeric material and the barrier materials can be formed into packaging materials by lamination or extrusion techniques, thus it is inherent that the polymer layers are heat sealable. Also, polyolefins and PET are both known in the art as excellent heat-sealable polymers.

In regards to claim 11, Carlblom discloses that the active hydrogen to the epoxy groups is 1.5 (col. 8 lines 31-32).

In regards to claim 13, Carlblom discloses that the barrier material comprises at least one layer of the container, thus have a surface area of 100% (col. 12 lines 4-10). The containers are ideally suited for packaging of food, beverages, medicines, and like substances (col. 12 lines 37-40), thus it is inherent that the containers are hollow in order for contents to be packaged.

In regards to claim 14, Carlblom discloses that the polymeric material is a polyolefin (col. 12 lines 14-16) or PET (col. 12 lines 58-59).

In regards to claims 12 and 16-17, Carlblom discloses that the preferred curing agents are those which the combinations of xylylenediamine, a polyfunctional compound having at least one acyl group, and a monocarboxylic acid, where the un-reacted xylylenediamine is removed (col. 8 lines 60-64).

In regards to claims 18-19, Carlblom discloses that the barrier material comprises at least one layer of the container, thus have a surface area of 100% (col. 12 lines 4-10). The containers are ideally suited for packaging of food, beverages, medicines, and like substances (col. 12 lines 37-40), thus it is inherent that the containers are hollow in order for contents to be packaged.

In regards to claim 20-21, Carlblom discloses that the skeletal structure comprises at least 64% of the curing agent (col. 8 lines 65-67).

In regards to claim 22, Carlblom discloses that the epoxy resin contains a phenylene or naphthylene component (col. 7 lines 40-60).

Response to Arguments

3. Applicant's arguments filed 07/29/2008 have been fully considered but they are not persuasive.

The applicant argues that Carlblom would have taught away from the gas-barrier layer made of an epoxy resin cured product containing a skeletal structure represented by the formula (1) in an amount of at least 45% by weight.

The claim of the applicant states that the skeletal structure is present in the cured product in an amount of 45%. The claim as written states that the formula (1) is present

in the epoxy resin cured product, in which Carlblom considers the cured polymeric network. Carlblom discloses that in forming a cured barrier coating, the cured polymeric network of the barrier coating comprises the skeletal structure represented by the formula (1) comprises at least 65% by weight of the cured network (col. 8 lines 51-67). Thus, it can be seen that the Carlblom does disclose using the skeletal structure represented by the formula (1) in the amount claimed by applicant. Also, Carlblom states that for the embodiments using direct reaction of the polyamine and polyepoxide, solids contents above 50% can be applied successfully (cols 10-11, lines 67 and 1-2). Carlblom also states that the preferred embodiments have been found to be those with high content of aminomethyl substitued benzene or naphthalene (col. 8 lines 53-59), thus Carlblom does not teach away from using higher amounts of the amine containing embodiment of the applicants.

The applicant argues that Carlblom would have neither taught nor would have suggested such gas-barrier container as in the present claims.

Carlbolom discloses that the barrier material discloses can be applied to packaging materials such as containers (col. 12 lines 32-37). The barrier coating applied to a container substantially reduces the permeability of gases such as carbon dioxide and/or oxygen through packaging materials (col. 1 lines 9-14). The barrier coating of Carlbolom seeks to solve the same problem as the inventor, wherein improving the barrier properties of plastic packaging for foods and beverages that are sensitive to oxidation and must be protected from oxygen to prevent discoloration or other detrimental effects (col. 1 lines 15-30).

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELLEN S. WOOD whose telephone number is (571)270-3450. The examiner can normally be reached on Monday-Friday 7-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ellen S Wood
Examiner
Art Unit 1794

/Carol Chaney/
Supervisory Patent Examiner, Art Unit 1794